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Addressing management gaps in atopic dermatitis: a behavioral analysis in Italian dermatology centers

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Abstract

This brief report presents findings from a nationwide behavioral diagnostic study examining atopic dermatitis (AD) management across Italian dermatology centers. Using the COM-B model (Capability, Opportunity, Motivation), the study analyzed care pathways, decision-making dynamics, and organizational structures. Through interviews, workshops, and patient journey mapping, the research identified key behavioral and structural barriers and enabling factors. Gaps were observed in referral systems, disease awareness, multidisciplinary coordination, psychological support, and treatment accessibility. These behavioral diagnostics provided insights into the actions to be taken that can inform the planning of future interventions. These results highlight the urgent need for better strategies to improve AD care and patient outcomes in Italy.

Introduction

Atopic dermatitis (AD) is a chronic inflammatory condition characterized by fluctuating severity, pruritus, and a considerable psychosocial burden. Despite advances in therapeutic options, many patients continue to encounter delays in diagnosis, fragmented care pathways, and insufficient multidisciplinary or psychological support.¹⁻⁶ These persistent discrepancies between recommended standards and real-world practices reported by both clinicians and patients were defined as unmet needs. The latter arise not only from clinical complexity but also from cognitive, motivational, and systemic factors that influence day-to-day decision-making in clinical practice.

To address these challenges, a nationwide initiative applied a behavioral science framework to examine how clinicians, healthcare structures, and patients jointly shape AD care delivery across Italy.

The aim of this study was to identify the above-mentioned unmet needs in AD management and to analyze the behavioral and organizational determinants contributing to suboptimal care across Italian dermatology centers.

Materials and Methods

The workshop comprised five sequential activities: web and social listening analysis which explore patient concerns and online discourse surrounding AD;³ 5 patient interviews to capture lived experiences throughout the AD journey; clinician interviews of 12 dermatologists to focus on diagnostic steps, treatment choices, and operational barriers; multi-center workshops involving 17 different dermatology centers, 31 clinicians and 8 hospital pharmacists and, in addition, a validation of a shared patient journey which integrates evidence from all previous phases.

The study used the COM-B model¹ to identify behavioral determinants of AD care. The COM-B model assesses three key determinants of behavior: capability, encompassing knowledge, skills, and psychological resources; opportunity, including structural, environmental, and organizational factors; and motivation, comprising emotional, cognitive, and goal-related influences.

Two main tools were applied: a behavioral diagnostic framework for categorizing barriers and enablers and behavioral sparks to guide solution ideation during workshops.

A standardized Patient Journey was validated and structured into five key phases (Figure 1).

Results

A total of 110 unmet needs were identified in the study, of which 31 were prioritized for behavioral analysis. The identified main unmet needs include: suboptimal referral processes (*e.g.*, delayed or inappropriate access to specialist care); low awareness of disease among patients and non-specialist clinicians; inconsistent follow-up and treatment adherence due to limited engagement strategies; weak multidisciplinary integration, particularly for psychological comorbidities; limited availability of psychological support pathways and significant organizational heterogeneity, including variation in digital infrastructure, documentation, and workflow standardization. Organizational barriers identified across centers are shown in Figure 2. The most frequently reported factors were lack of formal multidisciplinary protocols (approximately 30%) and delays in initiating therapy (approximately 25%).

Overall, 241 behavioral barriers and 112 enabling factors were identified. The distribution of behavioral barriers across COM-B domains is indicated in Figure 3. Opportunity-related factors (approximately 36%) were most prevalent, followed by capability (approximately 34%) and motivation (approximately 30%).

Discussion

This study corroborates previously documented challenges in AD care adding new insights through a behavioral perspective. The COM-B model allowed the identification of specific cognitive, environmental, and motivational factors that shape clinician and different patient behavior.

In the literature, delayed referral has been associated with increased disease severity at first specialist visit and longer time to treatment initiation.⁷ Evidence also shows that structured referral criteria and digital triage tools can significantly improve timeliness and appropriateness of referrals.⁸

In our study, clinicians reported frequent delays and inconsistencies in patient referral to specialists due to unclear or non-standardized referral criteria among general practitioners and reliance on

informal communication channels. Moreover, regional variability in referral systems and patient hesitation to seek specialist care worsen the process.

Behavioral contributors identified during the workshops include hesitancy to refer patients to specialist care, fear of administrative burden, and limited clarity regarding referral responsibility. Low awareness and a lack of up-to-date knowledge of diagnostic criteria and treatment pathways were commonly observed across both non-dermatology clinician groups and patients. This process results in an underreporting of illness, poor adherence to therapy, and delayed specialist contact. In addition, our study found that patients frequently attributed their symptoms to allergies or external triggers and tended to underestimate the chronic nature of AD.

Patients frequently reported emotional distress, including isolation, stigma, frustration, anxiety, and sleep disturbances. In the literature, educational programs have shown significant impact on patient outcomes, improving disease control and quality of life.^{9,10} Digital learning platforms represent promising tools for knowledge dissemination, especially when informed by behavioral insights.¹¹ Evidence supports the effectiveness of psychological interventions, including internet-based cognitive behavioral therapy¹² and structured psychosocial counseling.¹³ In our study, despite widespread recognition of these issues, only a few centers had structured psychological support pathways. Moreover, clinicians reported a lack of time, appropriate tools, and referral networks, contributing to the neglect of patients' psychological needs, which may negatively affect treatment adherence and patient engagement.

Our workshops highlighted several systemic issues influencing care quality. These findings are consistent with international literature indicating that protocol-based multidisciplinary care improves treatment adherence and clinical outcomes.¹⁴

Furthermore, global initiatives underscore the need for harmonized documentation and interoperable electronic health records to facilitate information sharing and longitudinal monitoring.¹⁵

Conclusions

In conclusion, this nationwide behavioral analysis provides a comprehensive overview of structural, cognitive, and motivational barriers affecting AD care in Italy. Despite regional variability, convergence across centers strengthens the generalizability of findings. The COM-B model proved effective for understanding behavioral dynamics and facilitating stakeholder engagement. We recommend that future research should focus on quantitative validation and the piloting of targeted interventions, particularly concerning referral optimization, educational pathways, and psychological support integration.

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Figure 1. Patient journey with five core phases and internal steps.

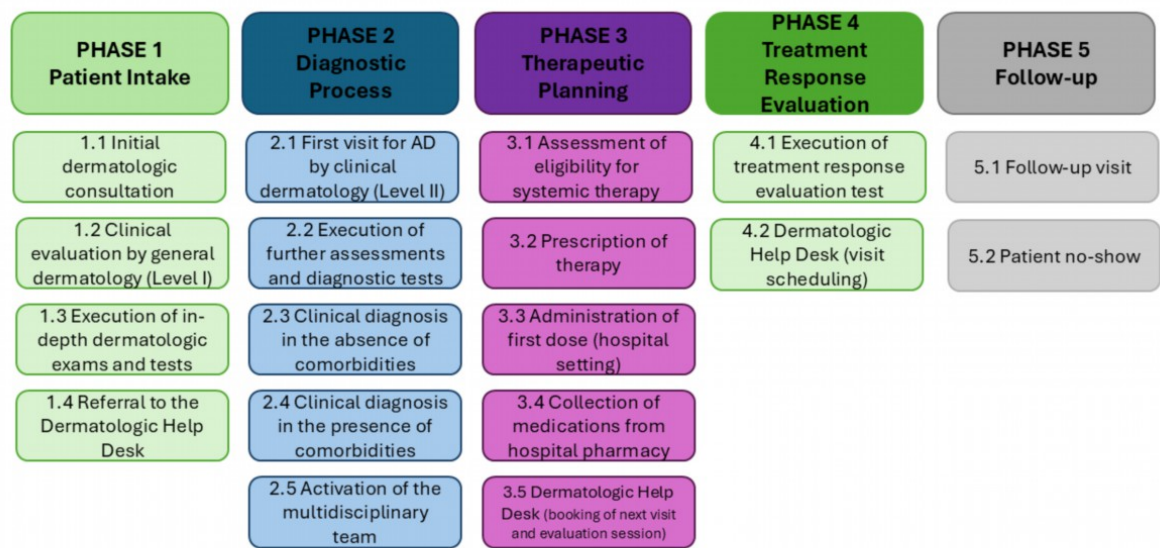


Figure 2. Key organizational gaps identified across participating centers.

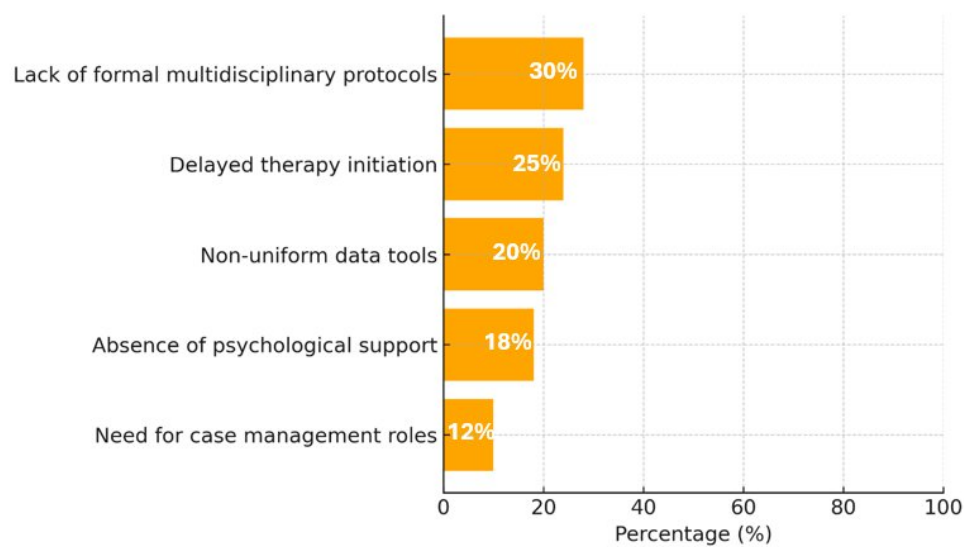


Figure 3. Distribution of behavioral barriers across COM-B domains (Capability, Opportunity, Motivation).

